THE
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GENERAL REVIEWS AND SUMMARIES

THE LAST DECADE OF PSYCHOLOGY IN REVIEW¹

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Several reasons prompted the author to undertake at this time a literary review of the decade which has just closed. It is exceedingly difficult to refrain from replying in some measure to the charges which in one way or another imply an incompetence on the part of psychology to take its place among the empirical sciences and to make contribution to the fund of knowledge in terms of its own special procedures. The criticisms have come from without and from within the discipline. Philosophers have recently informed us that "the present is a strange and troubled time for psychology"² and that the science is compelled "to revise its scale of values, shift its emphasis and direction of progress, and enter into relations of better understanding and coöperation with philosophy, or accept as its portion a distinct subject-matter and move in the direction of increased isolation from human affairs and the remaining body of scientific knowledge."³ Nor does reproach cease here: from the philosophers we must hear reports of desertions in our own ranks. Says one critic: "To those who have grown suspicious of the definitions and methods commonly employed in

¹ In abbreviated form this paper was read before the American Psychological Association, Chicago, December 28, 1915.

² JONES, A. H., "The Method of Psychology," *J. of Phil., Psychol., &c.*, 1915, 12, 462.

³ BODE, B. H., "The Method of Introspection," *J. of Phil., Psychol., &c.*, 1913, 10, 91.

psychology it is a most hopeful sign that this suspicion has gained active and vigorous support among psychologists themselves."⁴ Thus, in the conviction of one of our number, psychology "has failed signally . . . during the fifty-odd years of its existence as an experimental discipline to make its place in the world as an undisputed natural science."⁵

With indictments like these against us, we can fortunately turn with confidence to certain events which must be taken into account when the history of the current decade is written. To anyone who has read with care the reports of the Committee on the Academic Status of Psychology, further reference to this aspect of the subject need hardly be made.⁶ In the decade which we are considering, the laboratories of psychology have almost doubled their number. Ten years ago psychology was recognized as a separate department in only four academic institutions; now we have distinct departments in more than thirty-five institutions of this rank. Reports indicate an unusual degree of progress during the year 1915 as regards academic recognition of psychology as an independent science. The following items taken at random from the press suggest more than normal growth:

"The new University of Frankfurt has grouped psychology with the natural sciences in the faculty of science. A recent action by the University of Missouri goes in the same direction. Students who have done no biological work in high school and who therefore have to take in the first or second college year five hours of biological science may fulfill this requirement by taking five hours of psychology. To this extent the University of Missouri recognizes psychology as a biological science." *PSYCHOL. BULL.*, 1915, 12, 243-4; see also p. 127. "The University of Oregon has recently completed a new psychological laboratory." P. 128. "[At Dartmouth] a separate building is to be made available for the departments of psychology and education, and there will be ample quarters for psychological teaching and research."

⁴ BODE, B. H., "Psychology and Behavior," *Psychol. Rev.*, 1914, 21, 46.

⁵ WATSON, J. B., "Psychology as the Behaviorist Views It," *Psychol. Rev.*, 1913, 20, 163.

⁶ Published by the *Amer. Psychol. Assn.*, December, 1914 and 1915. A word ought to be said about one of the conclusions which the author published in an article on the "History and Status of Psychology in the United States," *Amer. J. of Psychol.*, 1912, 23, 517-531. It was stated that "psychology, after twenty-five years of growth, does not stand very high on the honor roll among other academic subjects." The observation does not require withdrawal; it was based upon statistical facts which represented comparative academic recognition in terms of financial support, student registration, and instruction. The first report of the Committee referred to agrees with the statement in several details (see pages 4, 15, 18). The items considered in the article relate only to certain limited phases of growth; a general development of the science is not denied.

P. 243. "The former combined department of philosophy, psychology, and education in the Johns Hopkins University has been divided into three independent departments." P. 243. "George Peabody College for Teachers has received \$8,500 . . . for equipping the Jesup Psychology Laboratory. This amount of money is to be spent for furniture, laboratory equipment, and psychological publications." *Science*, 1915, 42, 186. "The department of psychology of Reed College, Portland, Oregon, plans extensive improvements in its laboratory." *PSYCHOL. BULL.*, 1915, 12, 403. "At Vineland, N. J., a new laboratory of 30 rooms is now occupied by the department of psychological research." P. 403.

A further indication of the rank of psychology among the sciences is given by statistics recently tabulated in regard to the number of doctorate degrees conferred in various subjects for the decade. These figures place psychology fifth in order. For the entire decade they are: chemistry 580, physics 242, zoölogy 226, botany 214, psychology 201.⁸

In many of the adverse criticisms, moreover, as has already been indicated in several replies,⁹ either an historical background or a sympathetic understanding that comes from a knowledge of the traditional and periodical development of the science is almost, if not entirely, lacking. We need now and then to call a Spencerian halt in our progress and with a self-critical attitude to look back over the path which we have trod with the intention of discovering how far and in what direction we have travelled. It is for this reason that we miss the annual reviews of the general field which have appeared up to the last few years in the *BULLETIN*; and it is mainly on this account that the present review was undertaken. No complete survey of an extended period is to be found in our literature since the inventory made by Titchener in 1909 at the Clark University celebration. The review covered the preceding decade and succeeded by five years a similar historical summary

⁷ About a decade ago the reviewer of the year's work heralded "the installation of the new department of philosophy and psychology with a promising laboratory complement at the Johns Hopkins University" as "turning its face to the future." E. F. BUCHNER, *PSYCHOL. BULL.*, 1905, 2, 98.

⁸ Computed from statistics arranged by *Science*, 1915, 42, 557.

⁹ "At a time when psychology is taking her place as an independent empirical science among her sister sciences such a treatment [of psychology in its historical development] will, perhaps, help to obviate certain misunderstandings, such as are illustrated in profusion in the attempt of a brilliant contemporary writer to prove that psychology is quite without prospects" O. Klemm, *A History of Psychology* (trans. by Wilm and Pintner), 1914, p. 10. E. B. Titchener remarks: "I call the articles unhistorical because they give no hint that any similar revolt against an established psychology had taken place earlier in psychological history," On "Psychology as the Behaviorist Views It," *Proc. Am. Philos. Soc.*, 1914, 53, p. 4, see also p. 8.

made by the same authority at the St. Louis International Congress.¹⁰ One point which, if we read the history of the times aright, seems to find a parallel across the gap of the decade is to the effect that adverse criticism may often go hand in hand with scientific progress and prosperity. This appears to have been as true in the year of the St. Louis International Congress as it is today. In his summary of the year's literary productivity, Buchner claimed that "this period is chiefly marked by a sudden and widespread reëxamination of the aims, methods, and fundamental conceptions of psychology. It has taken on the form of a social reaction to the earlier teachings of the science."¹¹ Contrasting with this statement is the one made by Angell in his discussion of the congress: "Taken in their entirety, these papers give the psychologist a flattering sense of the massiveness and dignity of the science which he espouses. So much of solid achievement to stand upon, so wide a territory already laid under contribution—surely these things augur a rapid advance and the speedy realization of those dreams of conquest which fifty years ago seemed the chimerical creatures of overweening ambition."¹² It may be that the two quotations are complementary, that they express two aspects of the situation and indicate that the story is fully told only when adverse criticism is accompanied by a constructive evaluation of actual achievement. To answer the accusations of our critics on purely theoretical grounds would be an endless and thankless undertaking—endless, because beyond each statement quoted lies a whole context of theoretical propositions which have to be met; thankless, because the accuser seldom takes the pains to think himself into the system which he is so laboriously attacking. But we can point to the productivity of the science as an index of its stability and growth, for, to quote a contemporary writer, "that the science is established beyond all peradventure may be gathered from the striking steadiness of its literary output."¹³ This paper, then, makes the attempt first of all to answer the question, "*What* has been done in the last decade?"

Our second consideration has to do with method; to the question just put we add another: "*Whereby* has this been done?" In reply

¹⁰ TITCHENER, E. B., "The Past Decade in Experimental Psychology," *Amer. J. of Psychol.*, 1910, 21, 404-421; "The Problems of Experimental Psychology," 1905, 16, 208-224.

¹¹ BUCHNER, E. F., *PSYCHOL. BULL.*, 1905, 2, 90.

¹² ANGELL, J. R., "Psychology and the St. Louis Congress," *J. of Philos., Psychol., &c.*, 1905, 2, 546.

¹³ BUCHNER, E. F., *PSYCHOL. BULL.*, 1912, 9, 5.

we have to search for the methods by means of which the work of the decade was accomplished. Naturally most of the critical discussion in which psychology is at present involved centers about the methods of the science: viz., introspection *vs.* behavior. In answer to the query: "Is psychology evaporating?" one psychologist replies: "If psychology is to maintain its place among the sciences, it must not isolate itself from the rest of natural process by limiting its interest to pure introspection or to purely objective behavior";¹⁴ another suggests a "relative paucity of introspective studies";¹⁵ a third views psychology as "a purely objective, experimental branch of natural science which needs introspection as little as do the sciences of chemistry and physics";¹⁶ and a fourth is certain that "there is, as a matter of fact, not the slightest evidence for the reality of 'introspection' as the observation of 'consciousness.'" ¹⁷ Again it is not our present business to argue the matter out on theoretical principles; we prefer to let the literary product of the science speak for itself and, incidentally, for the science as well. It has been our purpose, therefore, to discover, if possible, to what extent psychology has relied upon the method of introspection as a means whereby scientific knowledge is sought. These two questions, the *what* and the *whereby* of achievement, stand as the underlying problems of the paper.

The method followed in reviewing the decade is not new; it has been profitably used in the surveys above mentioned. Owing to the complicating factor of the present war, however, only American psychological periodicals were analyzed. The review covers the six general periodicals: the *Amer. J. of Psychol.*, the *Psychol. Rev.*, the *PSYCHOL. BULL.*, the *Psychol. Monog.*, the *Arch. of Psychol.*, and the *J. of Phil., Psychol., &c*; the psychological numbers of the *California Studies* were also included. Every original theoretical or experimental contribution which appeared from 1905 to 1915 inclusive—a year was added to the decade to bring together the material from the last corresponding review to date—was counted, analyzed, and classified according to the current rubrics of the *Psychol. Index*. The statistical tables upon which our general review rests show, therefore, the number of articles written, the number of pages covered by each article, and the kind of method

¹⁴ MARSHALL, J. R., *J. of Phil., Psychol., &c.*, 1913, 10, 710.

¹⁵ CALKINS, M. W., "The Self in Scientific Psychology," *Amer. J. of Psychol.*, 1915, 26, 524.

¹⁶ WATSON, J. B., *Behavior, an Introduction to Comparative Psychology*, 1914, p. 27.

¹⁷ DUNLAP, K., "The Case Against Introspection," *Psychol. Rev.*, 1912, 19, 412.

which was used in the investigation of which the article is the report. These items are classified under the 75 headings and sub-headings found in the *Index*.¹⁸ Over 800 articles covering more than 20,000 pages in the journals were thus analyzed and arranged.

A word in explanation and defense: the author naturally realizes that statistical methods may be abused. Figures require interpretation and interpretation is elastic. Although the results were computed as accurately as possible, care was taken not to emphasize or overestimate comparatively small differences. The same may be said in regard to the classification of methods: to avoid ambiguity it was decided that the introspective method was used whenever an author referred to his results as introspections or whenever he actually quoted introspective analyses. The review of the decade falls, then, into the classification of the *Index* and follows in the order of the headings specified.

I. GENERAL.—In the way of general papers discussing problems, methods, apparatus, technique, and the like, we find a large number of contributions; more papers—about one fourth of the total number of papers for the entire decade—appeared in this field than in any other. The closest competitor is the field of *sensation and perception* with the greatest number of pages covered. Arranged in order of number of articles written and in order of the number of pages used, the years 1912, 1905, and 1908 stand at or near the top of both lists, while 1911 and 1915 stand at the other end. This agrees in general with the comments of the reviewer of the years indicated.¹⁹ Naturally the most frequently discussed topic within the group is that of general problems in which the subject of *consciousness* plays an especially prominent rôle in 1905, 1908, and 1913.²⁰ On this subject three articles, or one fifth of the maximal

¹⁸ In this classification the substance and not the title of the article guided the author in his judgment of its appropriate place, *e. g.*, DODGE, R., "A Working Hypothesis for Inner Psychophysics, *Psychol. Rev.*, 1911, 18, 167-185, was classified under I.5 (Mind and Body) and not under III.7 (Psychophysics). In several instances the author took issue on these grounds with the classification which the *Index* had given to the articles considered.

¹⁹ We have already noted the comment on the year 1905. Concerning 1912 we read, "The particular interests of the year have been in the nature of critical reactions toward some of the work of former years. These have been most marked in the attacks on introspection as a psychological method, the critical testing of tests, and the more secure establishment of the field of applied psychology." BUCHNER, E. F., *PSYCHOL. BULL.*, 1913, 10, 3. But this state of affairs is interpreted as "a sign of growth."

²⁰ The reviewer of the year notes that "the term 'consciousness' seems to face the dangers which years ago routed the term 'soul' and 'mind' from our vocabulary." BUCHNER, E. F., *PSYCHOL. BULL.*, 1912, 9, 1.

number, with an average length of about eleven pages are accredited to each of the years 1909, 1910, and 1915. Significant for the science is the fact that the next highest number of articles written within the group appear under the heading of *general apparatus and technique*. Some importance must also be attached to the disappearance since 1913 of purely speculative and philosophical articles from the strictly psychological journals.²¹ These articles were particularly abundant at the beginning of the decade. The fact that psychological periodicals have not printed more than one purely physiological article in the human field in the decade seems also to point to the conclusion that psychological material has preëmpted the space.

III. SENSATION AND PERCEPTION.—Exceptional activity has been displayed in this field: this is especially true of the years 1908 and 1909. About one fifth of the entire number of papers written fall in this group within which *vision* easily dominates with its complement of one fourth of the total number of papers written in the group. Direct and indirect vision is the most consistently attacked problem. Next in importance is the auditory group in which field sound-localization plays a leading rôle. Remarkable it is that in these eleven years not a single paper on taste and smell has appeared in the general periodicals. The dearth of material on organic sensation complained of by Titchener a decade ago²² is partially repaired by the publication of five articles in this period: two in 1908 and three in 1915. Over 200 pages in ten articles written for the most part since 1909 is the answer to Titchener's indication of a revival of psychophysics at the close of the previous decade.²³ Work done under the main heading of this paragraph requires unusual patience and application. If a general impression gained by the reviewer be allowed, the investigations carried on in this field have for the most part engaged the attention of specialists in the several branches: persons are carrying on this form of research with a zeal and a persistence less frequently found in other directions. We venture to say that most well-read psychologists can call up more names of investigators connected with the several topics listed under this caption than with any of the others. It is a

²¹ The *Psychol. Index* had already given notice in its 1911 number that "philosophical works are noted only if they contain matter of psychological interest."

²² TITCHENER, E. B., "The Problems of Experimental Psychology," *Amer. J. of Psychol.*, 1905, 16, 211.

²³ *Op. cit.*, 212.

rapidly growing field and one which has become unusually attractive during the last few years.

IV. FEELING AND EMOTION.—These subjects have made considerable progress since Titchener noted the scarcity of studies in the field a decade ago.²⁴ One twentieth of the total number of articles written in the decennium are classified under the general rubric; of these more than half were concerned with the affective processes. Many of the studies were made at the beginning of the period, but a gradual increase toward the end indicates a possible crest in a wave of interest just approaching. May we hope for a series of well-planned studies which will supply us with much needed facts in a comparatively neglected field.

V. MOTOR PHENOMENA AND VOLITION.—With greater emphasis on the behavioristic tendencies in the psychophysical organism, a relatively large increase in the number of papers concerned with the motor aspects of experience was frankly expected. Curiously, then, *action* is credited with but a little less than one tenth of the total number of pages and papers; what is still more noteworthy is that the highest frequency in the curve is observed at the middle of the decade with a marked decline at the end. The totals in this field equal almost to a digit those which appear under the rubric of *attitudes and intellectual activities*. The year 1909 was the most productive of all and showed interest in both introspective and in non-introspective procedures and in theoretical discussions. The greatest number of studies were concerned with experiments on the reaction and motor consciousness; the problems related to work and fatigue claimed almost as much attention.

VI. ATTENTION, MEMORY, AND THOUGHT.—The total number of contributions closely approximates the corresponding figure under *sensation and perception*; studies of memory compare favorably in number with the work done in *motor phenomena and volition* (*q. v.*). Investigations in the entire field, with the exception of a slight relapse in 1911, have steadily increased in number since the beginning of the decennium. Especially is this true of investigations of the memorial consciousness. In 1915 an unusual amount of interest was also aroused in problems connected with the cognitive consciousness and with the imaginative functions. The studies of attention, however, hardly come up to the expectations aroused at the beginning of the decade. Thirteen papers, or approximately one tenth of the total of the group, are concerned with thought, and a somewhat greater number of papers and pages deal with the exami-

²⁴ *Op. cit.*, 213.

nation of judgment, belief, and reasoning. *Comparison, abstraction, ideation, the psychology of testimony, the diagnosis of mental situation, disorders of attention, memory, and thought* stand at the bottom of the list under this rubric with very few or no contributions during the decade.²⁵

VII. ATTITUDES AND INTELLECTUAL ACTIVITIES.—Reference has already been made to the rubric. About one third of the total number of articles in the group are concerned with the psychology of language and most of the work was done in 1914. The psychology of religion was extensively discussed at the beginning of the decade, but during the latter half, probably due to increased outlet in the special journals established during the period, not a single article has appeared. Naturally the same may be said in general about educational and animal psychology.

VIII–XII. In the discussion of special mental conditions like sleeping, dreaming, and the study of the effects of ether and other drugs on consciousness, the year 1910 showed the greatest activity. All told, however, these papers number only about one twentieth of the grand total. Nervous and mental disorders and animal psychology receive even less attention in the general periodicals, while the psychology of individual, racial, and social phenomena, and of genetic development were slightly more productive. For reasons just mentioned a considerable decline is also indicated in these fields for the last few years. Consequently a complete review ought not to pass over the fact that several special journals which were founded during the decade, or near its beginning, offer additional avenues for the escape of scientific thought in their specialized fields. The *Journal of Educational Psychology*, started in 1910 and devoting about 400 pages annually to original contribution, and the *Journal of Animal Behavior* together with the *Monograph Series* furnishing yearly since 1911 approximately 550 pages of material in their separate fields, are typical examples; other similar publications include the *Journal of Religious Psychology*, the *Psychological Clinic*, and the *Journal of Abnormal Psychology*.²⁶ In addition to the

²⁵ The aberrations of conscious phenomena as a class do not seem to have aroused the interest of the investigators who publish their contributions in the general periodicals. In addition to the topics mentioned, the *disorders of sensation and perception*, the *disorders of feeling*, and the *disorders of movement and instinct* have been, as far as publication in our journals of psychology is concerned, absolutely barren fields during the decade.

²⁶ By agreement most of the psychological periodicals now publish a complete list of all these journals, together with the general facts concerning their publication and subscription, on the last page of the last cover.

periodicals just mentioned we must not forget that some of the more important general journals are virtually products of the decade. A list of these should include the *Psychological Bulletin* (1904), the *Journal of Philosophy, Psychology, and Scientific Methods* (1904), and the *Archives of Psychology* (1906); special series not yet mentioned are the *Journal of Race Development* (1910) and the *Psychoanalytic Review* (1913).²⁷ Here surely is evidence of a healthy growth of periodical publication in this country; there is promise of continued increase in the announced—probably, at the time of the publication of this review, the accomplished—appearance of the new *Journal of Experimental Psychology*.

Before summarising the facts so far reviewed, we now turn to that phase of our work which attempts to answer the query: “*Whereby* has all this been done?” Here we have to do with method. All of the articles which appeared in the decade were grouped into four classes: introspective-experimental, introspective-nonexperimental, nonintrospective-experimental, and nonintrospective-nonexperimental. The first two classes contained articles in which the introspective approach was mainly emphasized, *i. e.*, introspections were taken in the investigation, referred to in the results, or specified in the procedure; the first class differs from the second in that the former involved and the latter lacked experimental control of conditions. The third class of articles depended for their results principally upon nonintrospective procedure and material, *i. e.*, they contained records of work done for the most part by means of methods which have come to be designated as behavioristic. The fourth group comprised theoretical, speculative, and general articles. Naturally in limiting cases there was some difficulty in differentiating the groups as given, but practically most of the papers fell easily into one or another category: doubtful cases were credited with half value in each of the two classes to which they doubtfully belonged. Measured in terms of frequency of use, the outcome of the analysis readily established the importance of introspective methods in the way of experimental contribution as compared with the “behavioristic” procedures. Of course in certain special fields, as one rightly would expect, nonintrospective work of an experimental type predominates; but even in some of these, the balance is not decisive. Motor phenomena and volition; the special mental conditions brought about by sleep, drugs, and suggestion; nervous and mental disorders; individual, racial, and

²⁷ Many of these journals show by count that the pages devoted to original contribution have slightly increased in number from year to year.

social phenomena; mental development in man, including educational psychology; organic evolution, including animal psychology: all of these were investigated with comparatively little reference to introspective procedures. They naturally do not lend themselves to such treatment. The first two topics, moreover, do not give definite returns in our calculation: reckoned in terms of pages covered, introspection shows more frequent use than *nonintrospective* experimentation. In almost all of the topics discussed there is, of course, much theoretical writing: the subjects treated under the first general heading are almost entirely of this character.

In order, therefore, to make what was considered a fair comparison of the various approaches to the subject of psychology, we drew up a table of ratios calculated approximately from the computed totals as found in connection with those sections which seemed to comprise the main business of general experimental psychology. The sections so selected include headings three to eight, viz., the subjects: sensation and perception, feeling, emotion, volition and motor phenomena, attention, memory, thought, the attitudes and intellectual activities, and special mental phenomena. This, in our mind, delimits the scope of normal, human, adult psychology. In this general field, then, we find that in point of number the introspective studies head the list of investigations in the decade with 234 separate articles; theoretical studies follow with 150; and the *nonintrospective* experimental papers foot the list with 93. In other words, there are roughly two and a half times as many introspective as nonintrospective experimental papers. The ratios run through the years as follows:

RATIOS SHOWING FREQUENCY OF USE
(Behavioristic methods = 1)

In Terms of Number of Articles			Year	In Terms of Number of Pages		
Experi- mental-Intro- spective	Nonexperi- mental-Intro- spective	Speculative- Theoretical		Experi- mental-Intro- spective	Nonexperi- mental-Intro- spective	Speculative- Theoretical
1.3	.3	.77	1905	2.1	.25	1.2
1.5	.55	2.	1906	1	.26	.6
2.	.9	2.5	1907	2.25	.4	1.08
3.75	.5	5	1908	12.	.45	3.6
3.	.55	3.7	1909	5.1	.3	1.6
2.5	.37	1.9	1910	6.	.09	2.8
2.3	.37	1.	1911	3.	.25	.8
2.25	..	.8	1912	3.	.	.4
3.	.25	1.1	1913	2.8	.02	.9
1.15	.07	1.25	1914	2.15	.05	.9
2.05	.16	.8	1915	7.	.05	1.16
2.25	.36	1.9	Averages	4.21	.19	1.3

These figures indicate in general a gradual rise in the use of the introspective procedures from the beginning of the decade, with a slump in 1914 and a definite recovery from the critical attacks in 1913-1914 under which introspection apparently suffered.

In conclusion and in answer to our original question, "*What* has been done in psychology during the last decade?" we can point to the work outlined and accomplished in the way of contributions to our general periodicals in the field of sensation and perception, to the progress in the investigation of feeling, and to the increased activity, especially in the last few years, in the study of memory and of recognition. Surely, too, there is in general an increasing productivity in the field of journal publication. Other events of the times, the increase in laboratory facilities, the position which psychology has taken academically among the other sciences, and the gradual emancipation from its parent disciplines, we have mentioned in our opening paragraphs. With all this positive statement, it would not be fair to avoid reference to the decline of researches concerned with the thought consciousness and with the attentive consciousness; it is not unlikely that snags have been struck which must be removed before the initial task may be completed. In the meantime we are getting the benefit of these lateral borings.

The net result of our inquiry into methods employed in the decade in answer to the question, "*Whereby* has all this work been done?" is clear and definite. In terms of the sanction of methods through extensiveness of usage, our study reveals the fact that introspection has contributed more generously to normal, human, adult psychology during the past decade than has any other method. In both phases of our problem, it is extremely difficult, if not impossible, to find a single decadent tendency.

SENSATION—GENERAL

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In reply to criticisms of Rahn,¹ Titchener (4) dwells upon the distinction to be drawn between "the sensation of classification and the sensation of observation." Under immediate observation some attribute or attributes will be focal, others, as a rule, marginal. Rarely are all the attributes observable at one and the same time. The sensation of classification, on the other hand, includes all the

¹ See BULLETIN, 1915, 12, 100.